

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) ~~A protein having a~~ A fructosylamine oxidase activity of the following ~~(a) or (b)~~ selected from:

(a) an isolated protein comprising the amino acid sequence as set forth in SEQ ID NO: 1 of the Sequence Listing;

(b) a protein comprising an amino acid sequence where one or several amino acid residue(s) is/are deleted, substituted or added in the amino acid sequence of (a) and having a fructosylamine oxidase activity,

(c) an isolated protein comprising the sequence Gly Phe Phe Phe Glu Ala Asp Glu Asn Asn Glu Ile Lys,

(d) an isolated protein comprising the sequence Phe His Tyr Asp Tyr Val Ala Pro Leu Ala Lys Pro Asn Ser Lys Glu Arg,

(e) an isolated protein comprising the sequence Asp Ala Pro Leu Leu His Asp Lys Glu Tyr Tyr Glu Glu Leu Gln Lys Asn Gly Leu Arg Asn Tyr Arg Tyr Ile Ser Thr,

(f) an isolated protein comprising the sequence Thr Lys Gly Asp Lys Gly Leu Asp Pro Glu Asp Lys, and

(g) an isolated protein comprising the sequence Trp Val Ser Val Glu Asn Pro Thr Pro His Lys Leu Glu.

2-3. (Cancelled)

4. (Currently Amended) The fructosylamine oxidase according to ~~any one of claims~~ claim 1 to 3, which is derived from *Pichia* sp. N1-1 strain or from genus *Pichia*.

5. (Cancelled)

6. (Currently Amended) A gene coding for a fructosylamine oxidase ~~which is any one of the following (e) or (d)~~ comprising a DNA sequence selected from:

~~(e)~~ (i) isolated DNA coding for a protein comprising the ~~nucleotide sequence~~ amino acid sequence as set forth in SEQ ID NO: 21 of the Sequence Listing;

~~(d)~~ (ii) DNA coding for a protein comprising an amino acid sequence where one or several amino acid residue(s) is/are deleted, substituted or added in the amino acid sequence of (i) and having a fructosylamine oxidase activity;

(iii) isolated DNA comprising the nucleotide sequence as set forth in SEQ ID NO: 2 of the Sequence Listing;

(iv) DNA where one or several nucleotide(s) is/are deleted, substituted or added in the above sequence ~~(e)~~(i) and codes for a protein having a fructosylamine oxidase activity.

7. (Currently Amended) A recombinant vector ~~containing the gene as claimed in claim 5 or 6~~ comprising a DNA sequence selected from:

(i) DNA coding for a protein comprising the amino acid sequence as set forth in SEQ ID NO: 1 of the Sequence Listing;

(ii) DNA coding for a protein comprising an amino acid sequence where one or several amino acid residue(s) is/are deleted, substituted or added in the amino acid sequence of (i) and having a fructosylamine oxidase activity;

(iii) DNA comprising the nucleotide sequence as set forth in SEQ ID NO:2 of the Sequence Listing;

(iv) DNA where one or several nucleotide(s) is/are deleted, substituted or added in the above sequence (i) and codes for a protein having a fructosylamine oxidase activity..

8. (Original) A transformant or a transfectant transformed with the recombinant vector as claimed in claim 7.

9. (Original) A process for the production of a fructosylamine oxidase comprising culturing the transformant as claimed in claim 8, and collecting the fructosylamine oxidase from the culture.

10. (Original) A fructosylamine oxidase produced by the process as claimed in claim 9.

11. (Currently Amended) A ~~spectroscopic analysis method~~ for detecting a fructosylamine, comprising:
digesting a fructosylamine compound in a sample by adding compound using the a
fructosylamine oxidase as-claimed inaccording to claim 1 to the sample; and

monitoring a change in absorbance in the sample spectroscopically, wherein a change in absorbance indicates fructosylamine is present in the sample.

12. (Currently Amended) ~~An electrochemical analysis~~ A method for detecting a fructosylamine compound, comprising:
digesting a fructosylamine compound in a sample by adding using the a fructosylamine oxidase as claimed in according to claim 1 to the sample; and
monitoring a change in electric current in the sample electrochemically, wherein a change in electric current indicates fructosylamine is present in the sample.

13. (Currently Amended) ~~An electrochemical analysis~~ A method for detecting fructosyl valine, comprising:
digesting a fructosyl valine compound in a sample using the fructosylamine oxidase as claimed in according to claim 1; and
monitoring a change in absorbance or electric current in the sample, wherein the change indicates fructosyl valine is present in the sample.

14. (Previously Presented) A method for the assay of HbA1c comprising digesting HbA1c in a sample to generate fructosyl valine, and analyzing the fructosyl valine spectroscopically using the fructosylamine oxidase as claimed in claim 1.

15. (Previously Presented) A method for the assay of fructosamine comprising digesting fructosamine in a sample to generate a fructosylamine compound, and analyzing the fructosylamine compound spectroscopically using the fructosylamine oxidase as claimed in claim 1.

16. (Previously Presented) A method for the assay of glycated albumin comprising digesting glycated albumin in a sample to generate a fructosylamine compound, and analyzing the fructosylamine compound spectroscopically using the fructosylamine oxidase as claimed in claim 1.

17. (Currently Amended) ~~An electrochemical analysis~~ A method for detecting HbA1c, comprising:
digesting an HbA1c compound in a sample by adding a ~~using the~~ fructosylamine oxidase as
claimed in according to claim 1; and
monitoring a change in absorbance or electric current in the sample, wherein the change
indicates HbA1c is present in the sample.

18. (Currently Amended) ~~An electrochemical analysis~~ A method for detecting
fructosamine, comprising:
digesting a fructosamine compound in a sample by adding ~~using the~~ a fructosylamine oxidase as
claimed in according to claim 1; and

monitoring a change in electric current in the sample, wherein the change indicates fructosamine is present in the sample.

19. (Currently Amended) ~~An electrochemical analysis~~ A method for detecting glycated albumin, comprising:
digesting a glycated albumin compound in a sample by adding using the a fructosylamine oxidase as claimed in according to claim 1; and
monitoring a change in electric current in the sample, wherein the change indicates fructosamine is present in the sample.

20. (Currently Amended) A kit for assay of fructosyl valine, HbA1c, fructosamine or glycated albumin comprising the fructosylamine oxidase as claimed in claim 1.

21-23. (Cancelled)

24. (Previously Presented) An enzyme electrode having the fructosylamine oxidase as claimed in claim 1 immobilized thereon.

25. (Original) An enzyme sensor comprising the enzyme electrode as claimed in claim 24 as a working electrode.